# DETROIT'S UNIQUELY CHALLENGING CONTEXT FOR STUDENT ATTENDANCE

**DETROIT EDUCATION**
RESEARCH PARTNERSHIP

# WAYNE STATE
## College of Education

**AUTHORS**

Jeremy Singer

Walter Cook

Sarah Winchell Lenhoff

Ben Pogodzinski

**OUR THANKS TO**

**RESEARCH NOTE**

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**DETROIT EDUCATION RESEARCH PARTNERSHIP**

The Detroit Education Research Partnership is a collaboration between researchers at Wayne State University's College of Education and a constellation of community partners interested in improving Detroit schools. We orient our work around the pressing policy needs of the Detroit education community, and we seek to inform improvement in the stability and engagement of school experiences for Detroit youth. We believe that education reform in other places has important lessons for our collective work in Detroit, but that any solution for Detroit will have to respond to the unique strengths and needs of our community. Using continuous improvement methods, we work in partnership with schools, community organizations, and policymakers to identify the key problems that impede improvement in Detroit schools. We then collaboratively determine what stakeholders need to know to solve those problems and design research studies to collect, interpret, and disseminate that information to the audiences that need it most. Learn more about our work and provide your input at http://go.wayne.edu/DetEdResearch.

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# DETROIT'S UNIQUELY CHALLENGING CONTEXT FOR STUDENT ATTENDANCE

## COLLABORATIVE POLICY RESEARCH

This research is the result of a collaboration between Wayne State University's College of Education and a constellation of community partners interested in improving Detroit schools, called the Detroit Education Research Partnership. We orient our work around the pressing policy needs of the Detroit education community, and we seek to inform the design of local educational reforms. We believe that education reform in other places has important lessons for our collective work in Detroit, but that any solution for Detroit will have to respond to the unique strengths and needs of our community. Download the full report, give us feedback, and see all of our research at http://go.wayne.edu/DetEdResearch

## DETROIT'S UNIQUELY CHALLENGING CONTEXT

Chronic absenteeism is a multifaceted problem that requires attention to a student's immediate and broader environment. Most research on attendance interventions has focused on process, person, and smaller-scale context, in part because these are the ecological factors that are closest to a school's locus of control. In contrast, this policy brief focuses on the macro-level context. While schools and districts have a role to play in addressing these broader structural factors, they cannot be addressed by schools or districts alone. These contextual barriers to attendance require coordinated action, and that may be particularly important in Detroit, where absenteeism is higher than in all other major cities. This report addresses the need for a comprehensive understanding of the structural and environmental conditions that moderate student attendance in Detroit and other major U.S cities.

## MAJOR FINDINGS

- Nationwide, long-term population change, asthma rates, poverty and unemployment rates, residential vacancy rates, violent crime rates, average monthly temperature, and racial segregation for a city's greater metropolitan area are all significantly correlated with city-wide rates of chronic absenteeism.

- Detroit has the highest chronic absenteeism rate in the country (about 50%), and it has a uniquely challenging context for student attendance. Among cities with 500,000 or more residents, Detroit has the highest adult asthma rate (14%), unemployment rate (about 20%), poverty rate (about 38%), violent crime rate (about 20 per 1,000 people), and residential vacancy rate (27%). In addition, it has the greatest population loss since 1970 (about 50% decline), one of the lowest average monthly temperatures (about 49° F), and is among the most segregated major metropolitan areas in the country.

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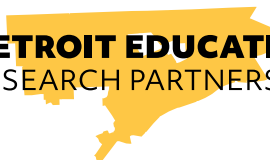
# INTRODUCTION

**E**ducational policymakers and practitioners have given increasing attention to chronic absenteeism (Gottfried & Hutt, 2019), and the majority of states have built measures of chronic absenteeism into their school accountability systems (Jordan & Miller, 2017). Researchers have shown that school-based efforts can improve student attendance (Allenworth & Easton, 2007; Lenhoff & Pogodzinski, 2018; Childs & Grooms, 2018; Balfanz & Byrnes, 2013; Smythe-Leistico & Page, 2018; Gottfried, 2018). Still, chronic absenteeism is a multifaceted problem that requires attention to a student's immediate and broader environment (Gottfried & Gee, 2017; Gottfried, 2014a). Thus, improving student attendance will require coordinated action by policymakers along with school and district based-staff.

The need to combine school-based action with policy that addresses structural barriers to attendance is crucial in Detroit. In the city, rates of chronic absenteeism are higher than any other major city (Balfanz & Chang, 2016). As the Detroit Public Schools Community District, Detroit charter schools, and community partners direct their efforts and resources toward improving attendance (Higgins, 2019; Simmons & Bell, 2019), policymakers must recognize the importance of the structural factors that make it uniquely difficult for Detroit students to get to school, so that they can begin to develop policies and make investments to address them.

This report addresses the need for a comprehensive understanding of the structural and environmental conditions that moderate student attendance in Detroit and other major U.S cities. To do so, we present data on health, crime, poverty, housing, weather, and other structural factors from all U.S. cities with 500,000 or more residents[1]. We find that macro-contextual factors are significantly associated with city-wide chronic absenteeism rates, and Detroit faces a uniquely challenging combination of structural and environmental

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[1] While some measures of transportation quality in major cities exist (e.g. Welch & Mishra, 2013), we were not able to reliably compare the cities' school transportation infrastructure, which could include public transit systems, yellow school buses, and walkability based on the geographic distribution of schools (Sattin-Bajaj, 2018; Blagg et al., 2018; Gottfried, 2017). We address factors that have implications for transit, such as crime, residential vacancy, and temperature.

barriers to student attendance. Long-term population change, asthma rates, poverty and unemployment rates, residential vacancy rates, violent crime rates, average monthly temperature, and racial segregation for a city's greater metropolitan area are all significantly correlated with rates of chronic absenteeism. Detroit faces some of the most challenging conditions for all of these factors.

## AN ECOLOGICAL APPROACH TO CHRONIC ABSENTEEISM

The issue of chronic absenteeism can be understood through an ecological framework (Gottfried & Gee, 2017). Through this lens, attendance is seen as a product of a student's experiences (process), their personal characteristics (person), their immediate and broader context, and time (see Appendix A). These different "levels" of a student's ecosystem interact with and are influenced by each other. For example, processes and personal characteristics can be influenced by context and can change over time. Likewise, changes over time or the effects of context can vary based on particular experiences and personal characteristics.

Most research on attendance interventions has focused on process, person, and smaller-scale context, in part because these are the ecological factors that are closest to a school's locus of control. For example, schools may offer rewards for high attendance or implement policies regarding contact with parents and increased consequences for continued absences (Jordan, 2019; Smythe-Leistico & Page, 2018; Rogers & Feller, 2016). In contrast, this policy brief focuses on the macro-level context. While schools and districts have a role to play in addressing these broader structural factors, they cannot be addressed by schools or districts alone. These contextual barriers to attendance require coordinated attention in all cities seeking to reduce absenteeism, and they may be particularly important in Detroit, where absenteeism is higher than in all other major cities.

**Table 1:** Cities with 500,000+ Residents with Chronic Absenteeism Rates, 2015-16 School Year

| City | Population | Chronic Absenteeism Rate | Chronic Absenteeism Rate Group |
|------|-----------|--------------------------|-------------------------------|
| **Detroit** | **672,795** | **47.80%** | **High** |
| Milwaukee | 595,047 | 38.20% | High |
| Philadelphia | 1,567,872 | 31.80% | High |
| Washington | 681,170 | 30.80% | High |
| Baltimore | 614,664 | 29.50% | High |
| Columbus | 860,090 | 28.80% | High |
| Louisville | 616,261 | 27.20% | High |
| Tucson | 530,706 | 26.40% | High |
| Denver | 693,060 | 25.90% | High |
| Chicago | 2,704,958 | 24.50% | High |
| Portland | 639,863 | 23.10% | Medium |
| Albuquerque | 559,277 | 21.80% | Medium |
| Seattle | 704,352 | 21.20% | Medium |
| Las Vegas | 632,912 | 20.50% | Medium |
| Jacksonville | 880,619 | 20.50% | Medium |
| Nashville | 660,388 | 19.20% | Medium |
| New York | 8,537,673 | 18.50% | Medium |
| Phoenix | 1,615,017 | 18.50% | Medium |
| Boston | 673,184 | 17.30% | Medium |
| Oklahoma City | 638,367 | 15.80% | Medium |
| Fort Worth | 854,113 | 15.60% | Medium |
| Indianapolis | 855,164 | 15.00% | Low |
| Los Angeles | 3,976,322 | 14.40% | Low |
| San Antonio | 1,492,510 | 12.90% | Low |
| San Diego | 1,406,630 | 12.40% | Low |
| Houston | 2,303,482 | 11.60% | Low |
| El Paso | 683,080 | 11.20% | Low |
| San Jose | 1,025,350 | 11.10% | Low |
| Austin | 947,890 | 10.90% | Low |
| Dallas | 1,317,929 | 10.80% | Low |
| Charlotte | 842,051 | 10.20% | Low |
| Fresno | 522,053 | 7.50% | Low |
| San Francisco | 870,887 | 6.20% | Low |

**Table 2:** Correlations between Chronic Absenteeism Rates in Cities with 500,000+ Residents and Structural Barriers to Attendance

| Variable | Correlation Coefficient | Statistical Significance |
|---|---|---|
| **Percentage of Adults with Asthma** | **0.7382** | *** |
| **Violent Crime per 1,000 Residents** | **0.6906** | *** |
| **Residential Vacancy Rate** | **0.6312** | *** |
| **Unemployment Rate** | **0.6041** | *** |
| **Poverty Rate** | **0.5602** | *** |
| **Segregation Index for Metro Area** | **0.4760** | ** |
| **Population Change (%) 1970-2010** | **-0.4721** | ** |
| **Average Monthly Temperature (°F)** | **-0.5299** | ** |
| Average Monthly Precipitation (inches) | 0.2661 | |
| Percentage of Residents who Moved Within 1 Year | 0.0679 | |
| Percentage of Residents who are Renters | 0.0065 | |
| Total Population | -0.1192 | |
| Air Quality Index | -0.1732 | |
| Percentage of Adults Lacking Health Insurance | -0.2672 | |
| Population Change (%) 1990-2010 | -0.3370 | |

*p<0.05, **p<0.01, ***p<0.001

## DATA AND METHODOLOGY

To consider Detroit's unique context for student attendance, we compiled data on structural and environmental factors that are relevant to absenteeism from 33 U.S. cities with a population of 500,000 or more residents (Table 1).[2] In addition to city-wide chronic absenteeism rates from the Office of Civil Rights Data Collection by the Department of Education, we used data on population change, health, crime, weather, poverty, housing, and racial segregation (Appendix B). We included these data because of their theoretical relationship to absenteeism as structural barriers, and then looked at each variable's correlation with city-wide chronic absenteeism among the 33 cities (Table 2).

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[2] We exclude Memphis, Tennessee because of attendance data integrity issues. See Bitzer, J. E. & Lewis, A. S. (2013). Policy vs. reality: Understanding attendance in Memphis' urban schools. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.1031.9809&rep=rep1&type=pdf

Of the data we examined, we identified eight variables as significantly correlated with city-wide absenteeism in U.S. cities with 500,000 or more residents: long-term population loss, adult asthma rates[3], poverty rates, unemployment rates, residential vacancy rates, violent crime per 1,000 residents, average monthly temperature, and racial segregation in the greater metropolitan area. In the findings section, we discuss each of these factors in greater detail.

We further analyzed the relationship between absenteeism and these eight structural/environmental factors in three steps. First, we categorized cities based on low-, medium-, and high rates of chronic absenteeism (Cox, 2007), and compared how each measure of structural and environmental barriers varies between those groups. We then identified how Detroit ranked across these measures compared to other cities. Finally, we created a simple index of the eight structural/environmental barriers to illustrate the extent to which Detroit has a uniquely challenging context for student attendance.

## STRUCTURAL AND ENVIRONMENTAL FACTORS ASSOCIATED WITH CHRONIC ABSENTEEISM

Urban districts with high rates of poverty typically have two to four times higher absenteeism rates than the national average (Balfanz & Chang, 2016). The ecological perspective of absenteeism helps explain how contextual factors drive these high rates of absenteeism in urban districts. A large number of factors in students' immediate and broad contexts must be understood and addressed. Here, we review the theoretical relationship between an important (but not comprehensive) set of macro-contextual factors that we empirically identified as significantly associated with a city's overall rate of chronic absenteeism.

**Population loss.** Population change from 1970 to 2010 was significantly correlated with city-wide absenteeism: greater population loss is associated

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[3] Only adult asthma rates were publically available (Center for Disease Control).

with higher chronic absenteeism rates today. Population loss in cities is associated with economic decline, and rapid population change can stress a city's physical infrastructure and its financial and institutional health (Pallagst, Wiechmann, & Martinez-Fernandez, 2014).

**Asthma.** Adult asthma rates were significantly correlated with city-wide absenteeism. Asthma and its environmental causes (such as pollution) have been consistently documented as a major barrier to student attendance (Silverstein et al., 2001; Tinkelman & Schwartz, 2004; Currie et al., 2009; Gottfried & Gee, 2017). Asthma rates for a city's adult population may reflect the degree to which students are more or less prone to asthma themselves. Cities with higher asthma rates may require more significant environmental and health interventions in order to address chronic absenteeism.

**Poverty and unemployment.** Poverty and unemployment were also significantly correlated with city-wide rates of chronic absence. Poverty has consequences for students' health, development, and learning (Brooks-Gunn & Duncan, 1997). The consequences of poverty are reflected in the persistent negative relationship between poverty and educational outcomes (Reardon, 2011; Hanushek, Peterson, Talpey, & Woessmann, 2019). A city's poverty rate reflects the level of socioeconomic disadvantage in its population, and addressing student challenges associated with high levels of poverty may overwhelm the resources available to district- and school-based staff as they try to improve attendance (Childs & Grooms, 2018). Additionally, adult unemployment in a household not only contributes significantly to poverty levels (Blank, 2000), but can lead teenagers into the workforce to help support the family, which can disrupt student attendance as well (Balfanz & Byrnes, 2012).

**Adverse conditions on the way to school.** Three of the structural/ environmental indicators that we found to be correlated with city-wide absenteeism rates have important implications for transportation: crime, residential vacancy, and temperature. Safety may be a major concern for parents and students who walk or use public transportation to get to school.

Violent crime rates and residential vacancy rates reflect actual and perceived threats to student safety on the way to and from school, thus are barriers to attendance that relate to school transportation. Indeed, vacant properties and crime are strongly associated with each other (Spelman, 1993; Branas, Rubin, & Guo, 2012; see Appendix C).

Cold weather is also a transit-related barrier. Students who walk or take public transportation to school may be particularly impacted by inclement weather, including extremely cold temperatures, snow, and rain, as research has shown that such conditions can create barriers to attendance (Longhurst, 1999; Gump, 2004). Climate varies widely by geographic region, which means that temperature and other weather-related barriers to attendance are a greater burden in some cities than others. Some cities are also better equipped to address their specific weather conditions, while in some communities resources are not invested in plowing streets, shoveling sidewalks, or providing transit options that reduce the time children must spend outside (such as waiting for a bus).

**Racial segregation.** Racial segregation may reflect a history of disinvestment and racial discrimination at the root of macro-contextual barriers to attendance like poverty and blight (Massey, 1988; Sugrue, 2005). Higher levels of segregation may also reflect the erosion of school-community relationships and democratic control over schools (Scott & Holme, 2016). Cities in metropolitan areas that are intensely segregated may need to consider reparational dimensions to policies intended to address chronic absenteeism, such as restoring school-community relationships, providing community control over public institutions, and responding to distributive and dignitary injustices at the core of community inequality.

**Figure 1:** Structural barriers to attendance in high-, medium-, and low-chronic absenteeism cities
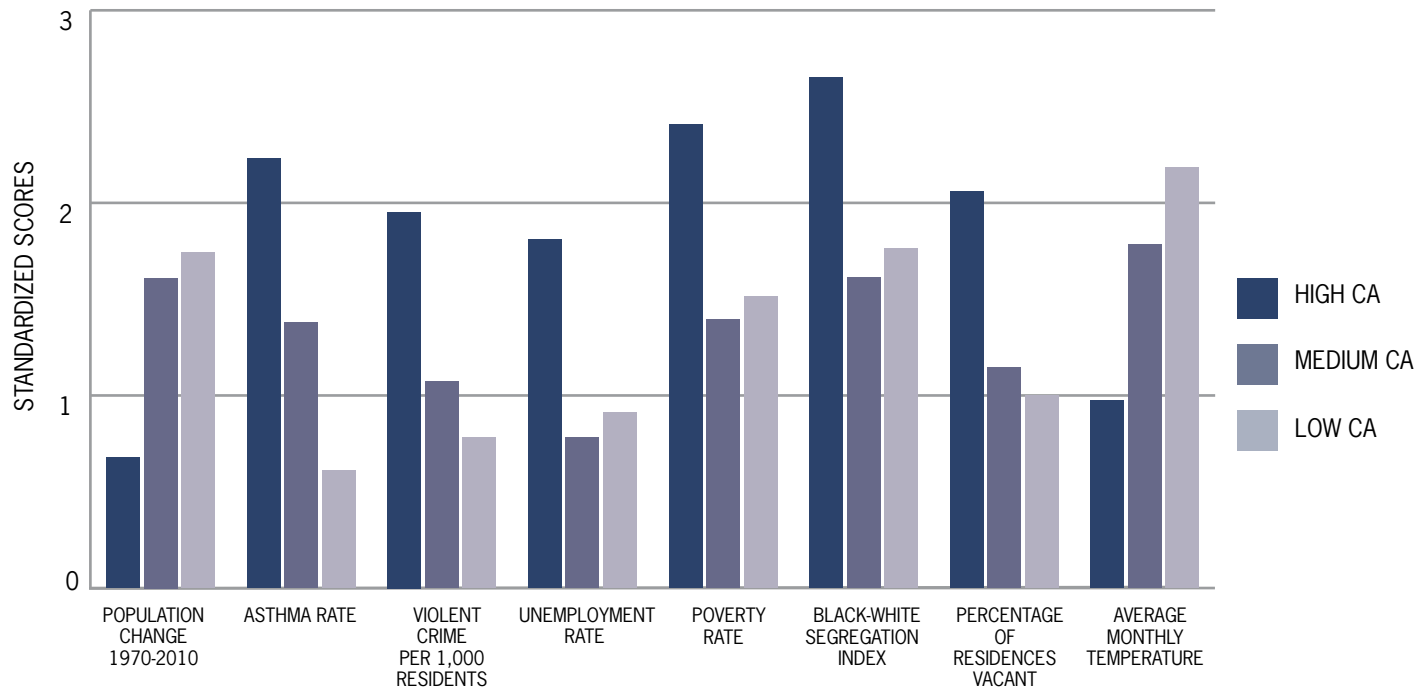


## DETROIT'S UNIQUE CONTEXT FOR CHRONIC ABSENTEEISM

We found that cities with higher rates of chronic absenteeism are likely to have more challenging levels of asthma, poverty, crime, residential vacancy, temperature, and racial segregation (Table 2). To further examine how city-wide absenteeism is related to these structural barriers, we grouped all 33 cities with 500,000 or more residents based on their city-wide chronic absenteeism rate (Table 1). As Figure 1 shows, cities with high absenteeism had, on average, either population loss or low population gain; worse rates of asthma, violent crime, unemployment, poverty, and residential vacancy; higher levels of racial segregation; and colder average temperatures than cities with low and medium chronic absenteeism rates. These macro-contextual barriers were highly correlated with one another (Appendix C), suggesting a complex relationship between these factors and individualized poverty.

## Table 3: Most challenged cities ranked for each structural barrier

| Percentage of Adults with Asthma (%) | |
|---|---|
| 1. Detroit | 14.00 |
| 2. Baltimore | 12.30 |
| 3. Louisville | 12.30 |
| 4. Philadelphia | 11.60 |
| 5. Boston | 11.40 |

| Violent Crime per 1,000 People | |
|---|---|
| 1. Detroit | 19.90 |
| 2. Milwaukee | 14.85 |
| 3. Baltimore | 13.39 |
| 4. Indianapolis | 12.55 |
| 5. Washington, D.C | 11.85 |

| Unemployment Rate (%) | |
|---|---|
| 1. Detroit | 19.80 |
| 2. Philadelphia | 11.30 |
| 3. Fresno | 11.10 |
| 4. Baltimore | 10.00 |
| 5. Chicago | 9.90 |

| Poverty Rate (%) | |
|---|---|
| 1. Detroit | 37.90 |
| 2. Fresno | 28.40 |
| 3. Milwaukee | 27.40 |
| 4. Philadelphia | 25.80 |
| 5. Tucson | 24.10 |

| Racial Segregation Index for Greater Metro Area | |
|---|---|
| 1. Milwaukee | 69.42 |
| 2. Detroit | 68.42 |
| 3. New York | 63.66 |
| 4. Chicago | 62.57 |
| 5. Philadelphia | 61.56 |

| Average Monthly Temperature (°F) | |
|---|---|
| 1. Denver | 46.48 |
| 2. Milwaukee | 46.67 |
| 3. Detroit | 49.03 |
| 4. Chicago | 49.56 |
| 5. Boston | 50.42 |

| Residential Vacancy Rate (%) | |
|---|---|
| 1. Detroit | 27.00 |
| 2. Baltimore | 18.00 |
| 3. Chicago | 14.00 |
| 4. Houston | 13.00 |
| 5. Indianapolis | 13.00 |

| Population Change (%), 1970-2010 | |
|---|---|
| 1. Detroit | -52.86 |
| 2. Baltimore | -31.45 |
| 3. Philadelphia | -21.69 |
| 4. Washington, D.C. | -20.46 |
| 5. Chicago | -19.94 |

Although cities with high rates of chronic absenteeism face more difficult structural or environmental barriers on average, Detroit has a uniquely challenging context for attendance. Detroit ranks among the most challenged cities for *every* indicator of a structural or environmental barrier (Table 4). Detroit has the highest adult asthma rate (14%), unemployment rate (about 20%), poverty rate (about 38%), violent crime rate (about 20 per 1,000 people), and residential vacancy rate (27%). In addition, it has the greatest population loss since 1970 (about 50% decline), one of the lowest average monthly temperatures (about 49° F), and is among the most segregated major metropolitan areas in the country. No other city ranks among the most challenged cities for all eight variables examined in this report, and few rank among the most challenged more than once.

**Figure 2:** Structural/Environmental Barriers Index and Chronic Absenteeism Rates
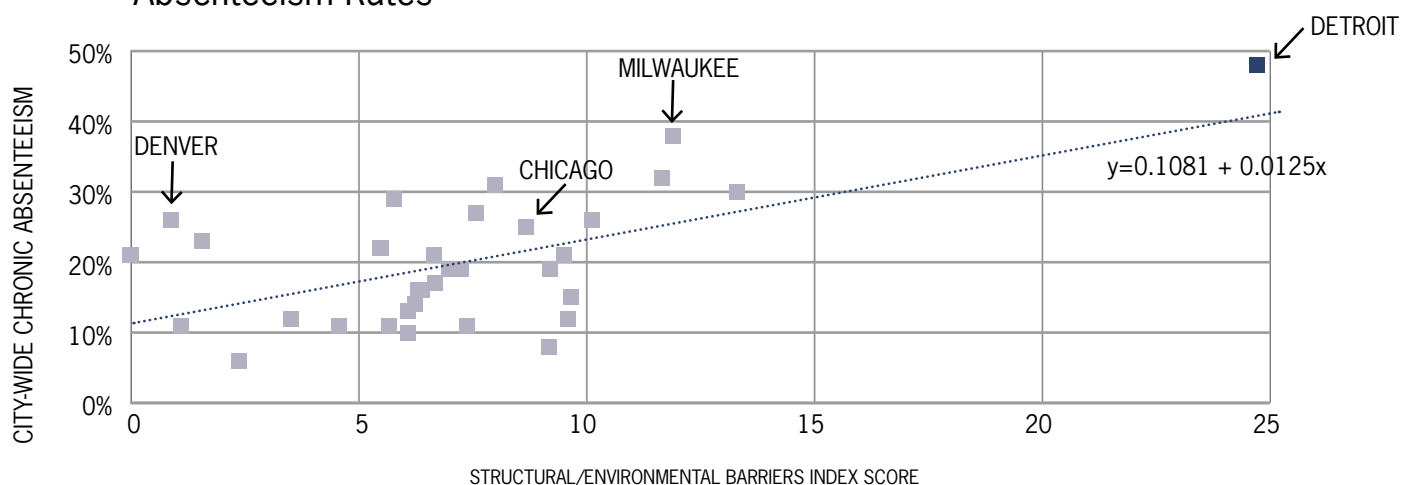


Correlation coefficient: 0.6036 (p<0.001)

Comparing all 33 cities with a "structural/environmental barrier index" further illustrates Detroit's uniquely difficult context. Figure 2 graphs each city's score on a simple index–the sum of a standardized score for each of the eight barriers examined in this study–along with its chronic absenteeism rate. This score is strongly correlated with city-wide rates of chronic absenteeism. Just like the city's chronic absenteeism rate, Detroit's score on the structural/ environmental barriers index is much higher than any other major city's score. While these structural and environmental factors are only part of a student's overall context and are not the only determinants of student attendance, they indicate a unique and compounding set of challenges for Detroit schools and policymakers to overcome as they try to improve student attendance.

## CONCLUSION

Detroit is a uniquely challenging city for student attendance. The city's schools and districts have been made responsible for lowering extremely high levels of absenteeism, both directly through state accountability measures of absenteeism, and indirectly through measures of academic achievement for which high levels of absenteeism are consequential (Allensworth & Easton, 2007; Balfanz & Byrnes, 2012; Gottfried, 2014b). This report suggests that without substantial, coordinated policy interventions at the district, city, and

state level, schools will likely achieve marginal success. Indeed, as Simmons and Bell (2019) write, "an engaged, impassioned community is the only way to overcome the overwhelming problem" of chronic absenteeism in Detroit.

Community leaders in Detroit have already elevated the importance of this issue and helped build civic and organizational capacity to address it. As the Detroit Public Schools Community District and some charter schools implement new initiatives and build their capacity to improve student attendance (Einhorn & Higgins, 2019), city and state leaders must commit to a policy agenda that addresses the overlapping structural barriers at the root of chronic absenteeism. The findings presented in this report emphasize that a wide range of social policies, such as those meant to alleviate poverty, boost employment, improve transportation infrastructure, address community health needs, decrease crime, and begin to repair injustices that are the result of a history of racial segregation, must be understood as educational policies as well (Anyon, 2005).

> **City and state leaders must commit to a policy agenda that addresses the overlapping structural barriers at the root of chronic absenteeism.**

The mayor's vision for 20-minute neighborhoods (Boyle, 2016) offers an opportunity to situate school-based initiatives related to attendance within a broader policy agenda for neighborhood-based services and investments. Such an approach fits well within the community schools model, which recent research suggests may be an effective approach to addressing educational issues from an ecological perspective (Maier, Daniel, Oakes, & Lam, 2017; Johnston et al., 2017). Detroit's policymakers, community organizations, and school leaders must continue to collaborate and invest in a coordinated vision for education in Detroit that effectively connects economic, transit, and health policy with education. By combining school-based efforts with a policy agenda that addresses the structural circumstances in which students live and go to school, Detroit can make significant strides toward reducing city-wide chronic absenteeism and improving educational opportunities and outcomes for its students.

Allen, G. (2003). The impact of elementary school nurses on student attendance. *Journal of School Nursing*, 19(4), 225–231.

Allensworth, E., & Easton, J. (2007). *What matters for staying on-track and graduating in Chicago public high schools: A close look at course grades, failures, and attendance in the freshman year.* Retrieved from UChicago Consortium on School Research website: https://consortium.uchicago.edu/publications/what-matters-staying-track-and-graduating-chicago-public-schools

Anderson, A. R., Christenson, S. L., Sinclair, M. F., & Lehr, C. A. (2004). Check & Connect: The importance of relationships for promoting engagement with school. *Journal of School Psychology, 42,* 95–113.

Anyon, J. (2005). What "counts" as educational policy? Notes toward a new paradigm. *Harvard Educational Review*, 75(1), 65-88.

Balfanz, R., & Byrnes, V. (2012). The importance of being in school: A report on absenteeism in the nation's public schools. *The Education Digest,* 78(2), 4.

Balfanz, R., & Byrnes, V. (2013). *Meeting the challenge of combating chronic absenteeism: Impact of the NYC mayor's interagency task force on chronic absenteeism and school attendance and its implications for other cities.* Baltimore, MD: John Hopkins School of Education and Everyone Graduates Center.

Balfanz, R. & Byrnes, V. (2018). Using data and the human touch: Evaluating the NYC inter-agency campaign to reduce chronic absenteeism. *Journal of Education for Students Placed at Risk (JESPAR),* 23(1-2), 107-121.

Balfanz, R., & Chang, H. (2016). *Preventing missed opportunity: Taking collective action to confront chronic absence.* Baltimore, MD: Attendance Works and Everyone Graduates Center.

Branas, C., Rubin, D., & Guo, W. (2012). Vacant properties and violence in neighborhoods. *ISRN Public Health*, 2012, 1-9.

Bealing, V. (1990). Pupil perceptions of absenteeism in the secondary school. *Maladjustment and Therapeutic Education*, 8(1), 19–34.

Bell, A. J., Rosén, L. A., & Dynlacht, D. (1994). Truancy intervention. J*ournal of Research & Development in Education*, 27(3), 203-211.

Blagg, K., Chingos, M., Corcoran, S. P., Cordes, S. A., Cowen, J., Denice, P., Gross, B., Lincove, J. A., Sattin-Bajaj, C., Schwartz, A. E., & Valant, J. *The road to school: How far students travel to school in the choice-rich cities of Denver, Detroit, New Orleans, New York City, and Washington, D.C. Washington, D.C.*: Urban Institute.

Blank, R. M. (2000). Fighting poverty: Lessons from recent U.S. history. *Journal of Economic Perspectives*, 14(2), 3-19.

Boyle, R. (2016, June 14). Could the 20-minute neighborhood work in Detroit? *Detroit Free Press*. Retrieved from https://www.freep.com/story/opinion/contributors/2016/06/14/could-20-minute-neighborhood-work-detroit/85847554/

Brooks-Gunn, J. & Duncan, G. J. (1997). The effects of poverty on children. *The Future of Children*, 7(2), 55-71.

Brundage, A. H., Castillo, J. M., & Batsche, G. M. (2017). *Reasons for chronic absenteeism among secondary students.* Florida's Problem Solving & Response to Intervention Project. Retrieved from http://www.hsredesign.org/wp-content/uploads/2018/07/Aggregate-RCA-Report-Final-1.pdf

Chang, H. N. & Romero, M. (2008). *Present, engaged, and accounted for: The critical importance of addressing chronic absence in the early grades* (Report). National Center for Children in Poverty. Retrieved from https://files.eric.ed.gov/fulltext/ED522725.pdf

Childs, J. & Grooms, A. A. (2018). Improving school attendance through collaboration: A catalyst for community involvement and change. *Journal of Education for Students Placed at Risk (JESPAR)*, 23(1-2), 122-138.

Cox, N. J. (2007). GROUP1D: Stata module for grouping or clustering in one dimension. *Statistical Software Components S456844*. Boston, MA: Boston College Department of Economics.

Curie, J., Hanushek, E. A., Kahn, M., Neidell, M., & Rivkin, S. G. (2009). Does pollution increase school absences? *The Review of Economics and Statistics*, 91(4), 682-694.

Einhorn, E. & Higgins, L. (2019, April 23). Inside Detroit's efforts to address one of the biggest obstacles to better schools: sky-high absenteeism. *Chalkbeat Detroit*. Retrieved from https://www.chalkbeat.org/posts/detroit/2019/04/23/inside-detroits-efforts-to-address-one-of-the-biggest-obstacles-to-better-schools-sky-high-absenteeism.

Epstein, J. L., & Sheldon, S. B. (2002). Present and accounted for: Improving student attendance through family and community involvement. *The Journal of Educational Research*, 95, 308–318.

Freeman, J., Simonsen, B., McCoach, D. B., Sugai, G., Lombardi, A., & Horner, R. (2016). Relationship between school-wide positive behavior interventions and supports and academic, attendance, and behavior outcomes in high schools. *Journal of Positive Behavior Interventions*, 18(1), 41-51.

Gee, K. A. (2018). Minding the gaps in absenteeism: Disparities in absenteeism by race/ethnicity, poverty and disability. J*ournal of Education for Students Placed at Risk (JESPAR)*, 23(1-2), 204-220.

Gershenson, S. (2016). Linking teacher quality, student attendance, and student achievement. *Education Finance and Policy*, 11, 125–149

Gottfried, M. A. (2014a). Can neighborhood attributes predict school absence? *Urban Education*, 49(2), 216-250.

Gottfried, M. A. (2014b). Chronic absenteeism and its effects on students' academic and socioemotional outcomes. *Journal of Education for Students Placed at Risk (JESPAR)*, 19(2), 53–75.

Gottfried, M. A. (2015). Can center-based childcare reduce the odds of early chronic absenteeism? *Early Childhood Research Quarterly*, 32, 160-173.

Gottfried, M. A. (2017). Linking getting to school with going to school. *Educational Evaluation and Policy Analysis*, 39(4), 571-592.

Gottfried, M. A., & Gee, K. A. (2017). Identifying the determinants of chronic absenteeism: A bioecological systems approach. *Teachers College Record*, 119(7), n7.

Gottfried, M. A., & Hutt, E. L. (Eds.). (2019). *Absent from school: Understanding and addressing student absenteeism.* Cambridge, MA: Harvard Education Press.

Gump, S. E. (2004). The truth behind truancy: Student rationales for cutting class. *Educational Research Quarterly*, 28(2), 48-56.

Hanushek, E. A., Peterson, P. E., Talpey, L. M., & Woessmann, L. (2019). The unwaivering SES achievement gap: Trends in U.S. student performance. *NBER Working Paper Series*, no. 25648.

Higgins, L. (2019, July 1). Early data from the Detroit district show push to improve attendance is starting to pay off. Chalkbeat Detroit. Retrieved from https://www.chalkbeat.org/posts/detroit/2019/07/01/early-data-from-the-detroit-district-show-push-to-improve-attendance-is-starting-to-pay-off.

Jacob, B. A., & Lovett, K. (2017). *Chronic absenteeism: An old problem in search of new answers.* Washington, DC: Brookings.

Johnston, W. R., Gomez, C. J., Sontag-Padilla, L., Xenakis, L., & Anderson, B. (2017). *Developing community schools at scale.* Santa Monica, CA: RAND Corporation.

Jordan, P. (2019, July). *Attendance playbook: Smart solutions for reducing chronic absenteeism.* Washington, D.C: FutureEd and Attendance Works. Retrieved from https://www.future-ed.org/wp-content/uploads/2019/07/Attendance-Playbook.pdf

Jordan, P. W. & Miller, R. (2017). *Who's in? Chronic absenteeism under the Every Student Succeeds Act.* Washington, D.C: FutureEd. Retrieved from https://www.future-ed.org/wp-content/uploads/2017/09/REPORT_Chronic_Absenteeism_final_v5.pdf

Kearney, C. A. (2008). School absenteeism and school refusal behavior in youth: A contemporary review. *Clinical Psychology Review*, 28(3), 451-471.

Lenhoff, S. W. & Pogodzinski, B. (2018). School organizational effectiveness and chronic absenteeism: Implications for accountability. J*ournal of Education for Students Placed at Risk (JESPAR)*, 23(1-2), 153-169.

Liu, J., & Loeb, S. (2017, February 22). Going to school is optional: Schools need to engage students to increase their lifetime opportunities. Retrieved from https://www.brookings.edu/research/going-to-school-is-optional-schools-need-to-engage-students-to-increase-their-lifetime-opportunities/

Longhurst, R. J. (1999). Why aren't they here? Student absenteeism in a further education college. *Journal of Further and Higher Education*, 23(1), 61-80.

Maier, A., Daniel, J., Oakes, J., & Lam, L. (2017). *Community schools as an effective school improvement strategy: A review of the evidence.* Palo Alto, CA: Learning Policy Institute.

Massey, D. S. (1988). American apartheid: Segregation and the making of the underclass. *American Journal of Sociology*, 96(2), 329-357.

Metzger, M. W., Fowler, P. J., Anderson, C. L., & Lindsay, C. A. (2015). Residential mobility during adolescence: Do even "upward" moves predict dropout risk? *Social Science Research*, 53, 218–230.

Moonie, S. A., Sterling, D. A., Figgs, L., & Castro, M. (2006). Asthma status and severity affects missed school days. *Journal of School Health*, 76(1), 18–24.

National Weather Service (n.d.). Climate variability. Retrieved from https://www.weather.gov/mrx/climatevariability

Pallagst, K., Wiechmann, T., & Martinez-Fernandez, C. (Eds.) (2014). *Shrinking cities: International perspectives and policy implications*. New York, NY: Routledge.

Reardon, S. F. (2011). The widening academic achievement gap between the rich and the poor: New evidence and possible explanations. In G. J. Duncan & R. J. Murnane (Eds.), *Whither Opportunity? Rising Inequality, Schools, and Children's Life Chances*. New York, NY: Russell Sage Foundation.

Reid, K. The strategic management o truancy and school absenteeism: Finding solutions from a national perspective. *Educational Review*, 64(2), 211-222.

Rogers, T. & Feller, A. (2017). I*ntervening through influential third parties: Reducing student absences at scale via parents*. Harvard Kennedy School Working Paper Series. Retrieved from http://scholar.harvard.edu/files/todd_rogers/files/influential_third_parties.pdf

Sampson, R. J. & Laub, J. H. (1994). Urban poverty and the family context of delinquency: A new look at structure and process in a classic study. *Child Development*, 65(2), 523-540.

Sattin-Bajaj, C. *"It's hard to separate choice from transportation": Perspectives on student transportation policy from three choice-rich school districts*. Washington, D.C.: Urban Institute.

Scott, J. & Holme, J. (2016). The political economy of market-based educational policies: Race and reform in urban school districts, 1915-2016. *Review of Research in Education*, 40, 250- 297.

Silverstein, M. D., Mair, J. E., Katusic, S. K., Wollan, P. C., O'Connell, E. J., & Yunginger, J. W. (2001). School attendance and school performance: A population-based study of children with asthma. *The Journal of Pediatrics*. 139(2), 278-283.

Simmons, L. L. & Bell, C. (2019). School attendance must be a priority after Count Day. *Detroit Free Press*. Retrieved from https://www.freep.com/story/opinion/contributors/2019/10/01/detroit-county-day-school-attendance/3828692002/

Smythe-Leistico, K. & Page, L. C. (2018). Connect-text: Leveraging text-messaging communication to mitigate chronic absenteeism and improve parental engagement in the earliest years of schooling. *Journal of Education for Students Placed at Risk (JESPAR)*, 23(1-2), 139-152.

Southworth, P. (1992). Psychological and social characteristics associated with persistent absence among secondary aged school children with special reference to different categories of persistent absence. *Personality and Individual Differences*, 13(3), 367–376.

Spelman, W. (1993). Abandoned buildings: Magnets for crime? *Journal of Criminal Justice*, 21(5), 481-495.

Sugrue, E. P., Zuel, T., & Laliberte, T. (2016). The ecological context of chronic school absenteeism in the elementary grades. *Children & Schools*, 38(3), 137-145.

Sugrue, T. J. (2005). *The origins of the urban crisis: Race and inequality in postwar Detroit*. Princeton: Princeton University Press.

Sutphen, R. D., Ford, J. P., & Flaherty, C. (2010). Truancy interventions: A review of the research literature. *Research on Social Work Practice*, 20(2), 161-171.

Tinkelman, D. & Schwartz, A. (2004). School-based asthma disease management. *Journal of Asthma*, 41(4), 455-462.

Wallace, C. M. (2017). *Parent/guardian perspectives on chronic absenteeism and the factors that influence decisions to send their children to school*. Dissertation. Retrieved from http://d-scholarship.pitt.edu/31731/1/C.%20Wallace%20Dissertation%205-3-171.pdf

Welch, T. F. & Mishra, S. (2013). A measure of equity for public transit connectivity. *Journal of Transport Geography*, 33, 29-41.

Whipple, S. S., Evans, G. W., Barry, R. L., & Maxwell, L. E. (2010). An ecological perspective on cumulative school and neighborhood risk factors related to achievement. *Journal of Applied Developmental Psychology*, 31, 422–427.

Whitney, C., & Liu, J. (2016). *What we're missing: A descriptive analysis of part-day absenteeism in secondary school* (CEPA Working Paper No.16-16). Retrieved from Stanford Center for Education Policy Analysis: http://cepa.stanford.edu/wp16-16

### Appendix A: A discussion of the bio-ecological determinants of absenteeism

Researchers have studied the causes of absenteeism across all of these ecological levels.

- For process, relationships and experiences with family members, peers, teachers, and mentors are important (Gottfried & Gee, 2017; Sampson & Laub, 1994; Southworth, 1992; Wallace, 2017; Balfanz & Byrnes, 2012; Sugrue, Zuel, & LaLiberte, 2016; Anderson, Christenson, Sinclair, & Lehr, 2004; Gershenson, 2016; Balfanz & Byrnes, 2018).

- At the individual-level (person), a student's disposition toward school, externalizing and internalizing behaviors, physical and mental health can all shape attendance rates (Gottfried & Gee, 2017; Gee, 2018; Balfanz & Byrnes, 2012; Jacob & Lovett, 2017; Brundage, Castillo, & Batsche, 2017).

- Context can include family factors like socioeconomic status (Gottfried & Gee, 2017; Reid, 2012; Chang & Romero, 2008), socioeconomic and sociodemographic characteristics of a student's neighborhood (Gottfried, 2014a), and school factors like school climate (Lenhoff & Pogodzinski, 2018), teacher attributes (Gershenson, 2016; Whipple, Evans, Barry, & Maxwell, 2010), and the presence of school nurses (Allen, 2003). It also includes structural factors such as transit and housing infrastructure, concentrated poverty, and determinants of health like food security, access to healthcare, and air quality rates (Balfanz & Chang, 2016; Whipple et al., 2010; Epstein & Sheldon, 2002; Wallace, 2017; Gottfried, 2017; Bell, Rosen, & Dynlacht, 1994; Moonie, Sterling, Figgs, & Castro, 2006; Metzger, Fowler, Anderson, & Lindsay, 2015; Gottfried & Gee, 2017; Jacob & Lovett, 2017; Lenhoff & Pogodzinski, 2018; Kearney, 2008; Sutphen, Ford, & Flaherty, 2010).

- Finally, time plays a role as well: not only do attendance patterns vary by time within a single day (Whitney & Liu, 2016), but also attendance patterns vary by grade-level and can be impacted by grade-level transitions (Balfanz & Byrnes, 2012; Bealing, 1990). The effects of process, person, and context factors can change over time as well.

Most research on attendance interventions has focused on process, person, and the micro- and meso-level context, in part because these are the ecological factors that are closest to a school's locus of control. For example, some interventions focus on improving teacher quality (Liu & Loeb, 2017), and others focus on student relationships in schools with teachers or other mentors (Balfanz & Byrnes, 2013). Schools have also tested the impact of direct communication with families (Smythe-Leistico & Page, 2018; Rogers & Feller, 2016). To formalize these school-based attendance practices, schools and districts have adopted multi-tiered systems of support (Jordan, 2019; Freeman et al., 2016), or have fostered community-based inter-organizational networks that work together to address the problem (Childs & Grooms, 2018).

## Appendix B: Summary of initial variables for all cities with 500,000 or more residents and description of data sources

| Variable | N | Mean | S.D. | Min. | Max. |
|---|---|---|---|---|---|
| Percentage of Students Chronically Absent (2015) | 33 | 0.1991 | 0.0926 | 0.0620 | 0.4780 |
| Total Population (2016) | 33 | 1,278,053 | 1,492,389 | 522,053 | 8,537,673 |
| Population Change (%) 1970-2010 | 33 | 0.6596 | 0.8624 | -0.5286 | 3.6408 |
| Population Change (%) 1990-2010 | 33 | 0.2903 | 0.3397 | -0.3056 | 1.2600 |
| Percentage of Adults Lacking Health Insurance (2016) | 33 | 0.1667 | 0.0642 | 0.0770 | 0.3270 |
| Percentage of Adults with Asthma (2016) | 33 | 0.0980 | 0.0147 | 0.0780 | 0.1400 |
| Air Quality Index (2018) | 33 | 51.7879 | 9.9302 | 37.0000 | 77.0000 |
| Violent Crime per 1,000 Residents (2014) | 33 | 7.7106 | 3.6507 | 3.2110 | 19.8950 |
| Unemployment Rate (2016) | 33 | 0.0761 | 0.0281 | 0.0440 | 0.1980 |
| Poverty Rate (2016) | 33 | 0.1931 | 0.0533 | 0.1000 | 0.3790 |
| Racial Segregation Index for Metro Area (2010) | 33 | 51.5070 | 8.7158 | 35.8000 | 69.4200 |
| Residential Vacancy Rate (2016) | 33 | 0.1039 | 0.0394 | 0.0500 | 0.2700 |
| Percentage of Residents Moved Within 1 Year (2016) | 33 | 0.1715 | 0.0315 | 0.0900 | 0.2400 |
| Percentage of Residents who are Renters (2016) | 33 | 0.5104 | 0.0749 | 0.4023 | 0.6737 |
| Average Monthly Temperature (°F) (2018) | 33 | 58.8617 | 7.3471 | 46.4833 | 71.6500 |
| Average Monthly Precipitation (inches) (2018) | 33 | 3.3270 | 1.7169 | 0.5058 | 5.6579 |

- The percentage of chronically absent students comes from the federal Department of Education's Civil Rights Data Collection. The most recent available data are from 2015.

- Total populations for each city come from the Census Bureau's American Community Survey, and population change rates were calculated from the decennial census population counts.

- Adult asthma rates and the percentage of adults lacking health insurance for each city come from the Center for Disease Control and Prevention's "500 Cities" data set, which provides city- and census tract-level estimates for healthcare access and health risks and outcomes.

- The Air Quality Index for each city comes from the US Environmental Protection Agency.

- Violent crime rates in each city come from the FBI's Uniform Crime Reporting Program.

- The overall poverty rate and unemployment rate come from the Census Bureau's American Community Survey.

- A racial segregation index for each city's metropolitan area, which measures the degree to which black, hispanic, and asian residents are segregated from white residents, was constructed using measures from the Population Studies Center at the Institute for Social Research. Separate index measures for black-white, hispanic-white, and asian-white segregation were combined in a weighted average.

- Residential mobility, based on the number of people who reported moving residences within the last year, and the percentage of residents who are renters both come from the Census Bureau's American Community Survey.

- Average monthly temperatures and precipitation rates for the geographic division of each city come from the National Oceanic and Atmospheric Administration's Climate Divisional Database.

## Appendix C: Correlations between Structural/Environmental Barriers to Attendance in Cities with 500,000+ Residents

| | Pop. Change, 1970-2010 | Percentage of Adults with Asthma | Violent Crime per 100k Residents | Unemployment Rate | Poverty Rate | Racial Segregation Index | Residential Vacancy Rate | Average Monthly Temperature |
|---|---|---|---|---|---|---|---|---|
| Pop. Change, 1970-2010 | - | | | | | | | |
| Percentage of Adults with Asthma | -0.4505** | - | | | | | | |
| Violent Crime per 100k Residents | -0.4722** | 0.6895*** | - | | | | | |
| Unemployment Rate | -0.2224 | 0.6368*** | 0.6472*** | - | | | | |
| Poverty Rate | -0.2751 | 0.6945*** | 0.6126*** | 0.8292*** | - | | | |
| Racial Segregation Index | -0.6410*** | 0.5407** | 0.6113*** | 0.4939** | 0.5422** | - | | |
| Residential Vacancy Rate | -0.4030* | 0.6877*** | 0.8365*** | 0.7394*** | 0.6817*** | 0.5625*** | - | |
| Average Monthly Temperature | 0.6080*** | -0.4563** | -0.4162* | -0.2535 | -0.2041 | -0.4424** | -0.1831 | - |

*$p<0.05$, **$p<0.01$, ***$p<0.001$